D.T.E. 00-42

Petition of Fitchburg Gas and Electric Light Company for Approval of Its Integrated Gas Resource Plan for the Years 2000 through 2004.

APPEARANCES: Erica L. Tarpey, Esq.

LeBoeuf, Lamb, Greene & MacRae, L.L.P.

260 Franklin Street

Boston, Massachusetts 02110

FOR: FITCHBURG GAS AND ELECTRIC LIGHT COMPANY

Petitioner

TABLE OF CONTENTS

I. INTRODUCTION AND PROCEDURAL HISTORY

On May 1, 2000, pursuant to G.L. c. 164, § 69I, Fitchburg Gas and Electric Light Company ("Fitchburg" or "Company") filed with the Department of Telecommunications and Energy ("Department")[(1)] a petition for approval of its Integrated Gas Resource Plan ("IRP"), a forecast and supply plan for the five-year period covering the gas years 1999-2000 through 2003-2004. The petition was docketed as D.T.E. 00-42.

Fitchburg is a regulated natural gas distribution utility headquartered in Fitchburg, Massachusetts. The Company serves utility customers in the six communities of Ashby, Fitchburg, Gardner, Lunenburg, Townsend, and Westminster in north central Massachusetts. The Company serves approximately 14,824 natural gas customers, of which 357 are GS-2 industrial process customers, 984 are GS-1 commercial heating customers, and 13,483 are residential customers (Exh. FG&E-1, at A-41, A-44, A-47, A-48).

Pursuant to notice duly issued, the Department conducted a public hearing and procedural conference in Boston on June 23, 2000. No petitions to intervene were filed. On August 15, 2000, the Company filed a Motion for Protective Treatment requesting that the Department protect from public disclosure certain prices, dates and volumes regarding its purchased gas supplies, contained in responses to Information Requests DTE 2-10, 2-16 and 2-18, and any similar information that might be solicited in the proceeding. On August 17, 2000, the Hearing Officer granted the Company's motion with respect to actual pricing information only (Hearing Officer Ruling at 3).

An evidentiary hearing was held at the Department's offices on August 30, 2000. Fitchburg presented two witnesses in support of its IRP: Robert Furino, Senior Financial Analyst for Unitil Service Corporation, and Sean P. Enterline, Senior Energy Analyst for Unitil Service Corporation.[(2)] The evidentiary record includes one Company exhibit consisting of the Company's report on its proposed Forecast and Supply Plan, with standard schedules, an

econometric supply forecast, relevant supporting data and workpapers, and three corrections incorporated therein; and 36 Department exhibits, consisting of the Company's responses to Department information requests and one Company response to a record request. On September 29, 2000, the Company filed a brief supporting its petition.

II. ANALYSIS OF THE LONG-RANGE FORECAST

A. Standard of Review

Pursuant to G.L. c. 164, § 69I, the Department is required to ensure "a necessary energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost." In accordance with this mandate, the Department reviews the long range forecast of each gas utility to ensure that the forecast accurately projects the gas sendout requirements of the utility's market area. G.L. c. 164, § 69I. A forecast must reflect accurate and complete historical data, and reasonable statistical projection methods. G.L. c. 164, § 69I; 980 C.M.R. § 7.02(9)(b). Such a forecast should provide a sound basis for resource planning decisions. Colonial Gas Company, D.P.U. 96-18, at 4 (1996); Bay State Gas Company, D.P.U. 93-129, at 5 (1996); Holyoke Gas and Electric Department, D.P.U. 93-191, at 2 (1996); Berkshire Gas Company, 16 DOMSC 53, 56 (1987) ("1987 Berkshire Gas Decision").

In its review of a forecast, the Department determines if a projection method is reasonable based on whether the methodology is: (a) reviewable, that is, contains enough information to allow a full understanding of the forecast methodology; (b) appropriate, that is, technically suitable to the size and nature of the particular gas company; and (c) reliable, that is, provides a measure of confidence that the gas company's assumptions, judgments, and data will forecast what is most likely to occur. Colonial Gas Company, D.P.U. 96-18, at 5; Bay State Gas Company, D.P.U. 93-129, at 5; Holyoke Gas and Electric Department, D.P.U. 93-191, at 2; Haverhill Gas Company, 8 DOMSC 48, 50-51 (1982). Specifically, the Department examines a gas company's: (1) planning standards, including its weather data; (2) forecast method, including the forecast results; and (3) derivation and results of its design and normal sendout forecasts. See Colonial Gas Company, D.P.U. 96-18, at 5; Bay State Gas Company, D.P.U. 93-129, at 5-6; Colonial Gas Company, D.P.U. 93-13, at 6; see also Boston Gas Company, D.P.U. 94-109 (Phase 1), at 9 (1996). As part of the review of the forecast, the Department also examines the company's scenario analysis, which is used for evaluating the flexibility of the company's planning process, including any cold-snap analysis[(3)] and sensitivity analysis. 1992 Boston Gas Decision at 200; see Bay State Gas Company, D.P.U. 93-129, at 23-25 and Boston Gas Company, D.P.U. 94-109 (Phase 1), at 61-66.

B. Previous Sendout Forecast Review

The Department reviewed Fitchburg's previous forecast and supply plan in Fitchburg Gas and Electric Light Company, D.T.E. 98-55 (1998). In that decision the Department rejected the Company's forecast and supply plan and provided direction for a subsequent

filing. Specifically, the Department found that Fitchburg: (1) did not employ any optimization or probabilistic analysis for developing design year and design day standards; (2) estimated sendout forecast at the aggregate firm level which did not provide sufficient information as customer class level forecasts do; (3) omitted economic and demographic factors that may affect the level of use for all customer classes; and (4) employed a forecast model with a poor statistical performance (Exh. FGE-1, at 6, 12-13). For its next forecast and supply plan filing, Fitchburg was directed to provide sales forecasts that are class specific, complete, clearly presented, and contain summaries that sufficiently explain all methods used, assumptions made, and data presented. In addition, the Department directed the Company to employ a more sophisticated econometric specification for its forecast model and eliminate model flaws before filing (id. at 13). Fitchburg has adequately complied with these directives, as discussed herein.

C. Planning Standards

The first element of the Department's forecast review is an assessment of a company's planning standards in order to determine if they are reviewable, appropriate, and reliable. A company's planning standards are used as a basis for projecting its sendout forecast, which, in turn, is used to ascertain the adequacy and cost of a company's supply plan. The Department's review of a company's planning standards begins with an examination of a company's weather data and continues with an analysis of how a company arrived at its normal year, design year, and design day[(4)] standards.

1. Weather Data

a. Description

The Company stated that its weather data is taken from the Worcester-Bedford weather database, which is continually updated by Weather Services, Inc. (id. at 42). The Company's data covers the 35-year period from 1964 to 1999 (id.). The model calculates the mean and standard deviations of the data then applies a normal distribution to derive heating degree day ("HDD")[(5)] levels associated with different probabilities of occurrence (id.). The Company converted and manipulated its weather data using the same model approved in its two previous IRP filings, Fitchburg Gas and Electric Light Company, D.T.E. 98-55 and Fitchburg Gas and Electric Light Company, D.P.U. 94-140 (1996).

b. Analysis and Findings

In Fitchburg Gas and Electric Light Company, D.T.E. 98-55, the Department approved the Company's weather database, comprised of 33 years of weather data, as reviewable, appropriate, and reliable. For its current filing, the Company's database contains 35 years of data, and is comparable to other weather databases approved previously by the Department. See Colonial Gas Company, D.P.U. 93-13, at 10; 1992 Boston Gas Decision at 135-136; Colonial Gas Company, 23 DOMSC 351, 363-364 (1991) ("1991 Colonial Gas Decision"). Therefore, the Department concludes that the weather data provides an adequate database from which to develop Fitchburg's planning standards. Accordingly,

the Department finds the weather database used by the Company in this filing is reviewable, appropriate, and reliable.

2. Normal Year Standard

a. Description

Fitchburg uses a normal year standard of 6,659 HDD to develop its sendout forecast (Exh. FGE-1, at 42). The normal year standard is the arithmetic average of the HDD for each of the past 35 gas years (id.).

b. Analysis and Findings

The use of the arithmetic average of historical degree day data to establish a normal year standard has previously been accepted by the Department. Fitchburg Gas and Electric Light Company, D.T.E. 98-55 at 5; Colonial Gas Company, D.P.U. 96-18, at 9; Colonial Gas Company, D.P.U. 93-13, at 10; 1992 Boston Gas Decision at 136; 1991 Colonial Gas Decision at 363-364. Because Fitchburg bases its normal year standard on a historical average of the actual data and its planning standards on the weather database approved in Section II.C.1.b. above, the Department finds the method used by Fitchburg for determining its normal year standard to be reviewable, appropriate, and reliable.

3. Design Year Standard

a. Description

Fitchburg assumed a standard normal distribution of HDD and calculated different scenarios of design years of one in 30, one in 50, and one in 100 years (Exh. FGE-1, at 42-43). The Company further analyzed the data and concluded that a design year of 7,270 HDD representing a probability of occurrence of one in 30 is optimal for the Company (id. at 43-44, Table 2.29).

b. Analysis and Findings

In its 1986 Gas Generic Order, 14 DOMSC 95, 96-97, 104-105 (1986) ("Gas Generic Order"), the Siting Council notified gas companies that it would place renewed emphasis on design criteria "to ensure that those criteria bear a reasonable relationship to design conditions that are likely to be encountered."

The Department notes that Fitchburg conducted an extensive analysis of the weather database, which included a probabilistic analysis, as previously directed by the Department. Therefore, the Department finds that the Company's selection of a design year standard of one in 30 years is reviewable, appropriate and reliable for the size and nature of the Company.

4. Design Day Standard

a. Description

As in the development of its design year standard, the Company assumed that weather data is normally distributed, and conducted an analysis of various scenarios (see Exh. FGE-1, at 45). The Company selected a design day standard of 70 HDD, representing a probability of occurrence of one in 30 years (id. at 45-46, Table 2.31).

b. Analysis and Findings

The Department reviews design criteria to ensure that there is a reasonable relationship between forecast and actual conditions. See Gas Generic Order at 97. Specifically, the Department evaluates how and why a company selects particular design weather criteria and the effect of the design standard on the reliability of a company's forecast and the cost of its supply plan. Id. at 96-97, 104-105.

In developing its design day standard, the Company employed the methodology used in developing its design year standard, approved in Section II.C.3.b above. Accordingly, the Department finds that the Company's method for obtaining its design day standard of one in 30 years is reviewable, appropriate and reliable.

5. Conclusions on Planning Standards

The Department has found that Fitchburg has used: (1) reviewable, appropriate, and reliable weather data for use in the development of its planning standards; (2) a reviewable, appropriate, and reliable normal year standard; (3) a reviewable, appropriate, and reliable design year standard; and (4) a reviewable, appropriate, and reliable design day standard. Accordingly, the Department finds, that the Company's planning standards are reviewable, appropriate and reliable.

D. Forecasting Methods

1. Customer Class Forecasts

The Company based its class sales and customer forecasts on separate econometric regression equations for each class (Exh. FGE-1, at 12). In total the Company estimated six equations, one for customers in each class and one for sales per customer (or class sales) in each class (id. at 12-13). The expected results of a recently introduced gas marketing effort were also added to the class sales forecast (id. at 13). The sum of all class sales forecasts is the total company firm sales forecast (id.).

The class sales forecast for the Residential Class was determined by multiplying the forecast of customers and the forecast of sales per customer (id.).[(6)] Class sales for General Service GS1 Class (Heating Only), and General Service GS2 Class (Heating and Other) were forecast directly (id.). The forecasting equations were estimated using historical annual calendar year data from 1983 through 1999 (id.). The equations were then applied to annual forecast data for the years 2000 through 2004 (id.).

The Company's Residential Class Forecast indicates that there will be a .03 percent increase in total class sales during the 1999-2004 period (id. at 23). The Total GS1 Class Forecast yields a 4.34 percent increase and the Total GS2 Class Forecast predicts an 8.2 percent increase in total class sales as well (id. at 30, Table 2.17; 36, Table 2.24).

Excluding the effects of the gas marketing effort, the forecast projects firm sales for Fitchburg to increase by 0.63 percent under static or "business as usual" conditions (id. at 36). Including gas marketing sales in the demand forecast results in an annual increase of 3.21 percent over the forecast period (id.).

2. Transportation Forecasts

The Company has limited experience with Firm Transport ("FT") service, which it began offering to its largest customers in June 1999 (id. at 37). In lieu of a quantitatively rigorous forecast of FT over the forecast period, the Company prepared three scenarios to encompass the realm of possible customer migration outcomes.

The Base Scenario represents the Company's forecast of FT deliveries and reflects its expectation of customer migration over the forecast period (id.). The Base Scenario assumes that migration in the year 2000 will remain at its 1999 level of 14 percent of firm deliveries (firm sales and firm transport). The level is expected to remain unchanged since nearly all of the Company's largest customers took FT service in 1999, leaving few remaining to convert (id.). However, the Base Scenario assumes that the percentage of firm deliveries represented by FT service will increase by five percent annually after 2000 (id. at 37-38).

According to the Company, the other two scenarios represent less likely outcomes, one with an extremely high migration and one with extremely low migration (id. at 38). The High FT Scenario assumes that the percentage of firm deliveries associated with FT service will increase by 20 percent a year over the forecast period, eventually leaving no customers taking firm supply from the Company (id.). The Low FT Scenario assumes that conditions reduce participation in FT service to zero over the forecast period (id.).

3. Analysis and Findings

The Department notes that Fitchburg used conventional regression analysis and employed demographic and economic variables to develop its long-range demand forecast model. The class-specific econometric forecast models developed by the Company incorporate sufficient detail to ensure reasonable results for planning purposes. Furthermore, the

Department notes that Fitchburg's approach to demand forecasting is systematic and conforms with contemporary estimation techniques. Class-specific models also comply with previous Department directives.

Finally, the statistical summaries of the regression equations of the Company's demand forecast model indicate a satisfactory basis and serve as the supporting elements of the explanatory power of the model. Also, the Company's forecast analysis and its results assist in assessing the model's predictive ability. For these reasons, the Department finds Fitchburg's demand forecast model to be reviewable, appropriate and reliable.

Additionally, the Company developed three scenarios for its newly-established FT service and adjusted its sendout forecasts to reflect these three scenarios. The Department recognizes that because the Company's FT service is new, these FT forecasts are based on estimates rather than actual experience. The Department directs that, for the Company's next filing, Fitchburg shall collect relevant data and information to appropriately develop its transportation forecast.

4. Normal and Design Year Sendout Forecast

a. Description

According to the Company's analysis, the design year sendout decreases throughout the forecast period, from approximately 2,220,000 MMBTU to 1,900,000 MMBTU, representing an overall reduction of 13.2 percent (see id. at 44, Table 2.30).

b. Analysis and Findings

To obtain its sendout forecast, the Company appropriately adjusted demand forecast numbers for lost, unaccounted for gas and company use. Fitchburg also calculated separate forecasts for normal and design year conditions based on the planning standards described in Section II.C.2. The Department notes that Fitchburg's approach in determining normal and design year sendout is in accordance with Department precedent. See Bay State Gas Company, D.T.E. 98-86 (2000); Commonwealth Gas Company, D.T.E. 96-117 (1999). Therefore, the Department finds that the normal and design year sendout forecasts are reviewable, appropriate, and reliable.

5. Design Day Sendout Forecast

a. Description

The Company forecast its design day sendout in a manner similar to the design year sendout forecast (Exh. FGE-1, at 41-43). Under the forecast, sendout increases throughout the forecast period, from 18,215 MMBTU to 18,501 MMBTU, for an overall increase of 1.57 percent (see id. at 47, Table 2.32).

b. Analysis and Findings

Consistent with the analysis and findings provided in Section II.D.4, the Department finds that the Company's design day sendout forecast is reviewable, reliable and appropriate.

6. Conclusions on the Sendout Forecast

In its current filing, Fitchburg provided a detailed and systematic explanation of its demand forecast with respect to both method and content. The Department notes that Fitchburg's use of econometric modeling and related statistical test results make the forecast figures reliable. Also, the Department finds that the Company's use of outside data sources for forecast values of independent economic and demographic variables is appropriate.

The Department is confident that Fitchburg's transportation migration scenarios will provide guidance to the Company in a changing market environment. In addition, the Department directs the Company to develop class-specific transportation forecasts in its next IRP filing.

For the reasons indicated above, the Department finds Fitchburg's forecast of sendout to be reviewable, appropriate and reliable.

III. ANALYSIS OF THE SUPPLY PLAN

A. Standard of Review

The Department is required to ensure "a necessary energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost." G.L. c. 164, § 69I. In fulfilling this mandate, the Department reviews a gas company's supply planning process and the two major aspects of every utility's supply plan -- adequacy and cost.[(7)] Commonwealth Gas Company, D.P.U. 92-159, at 53; Colonial Gas Company, D.P.U. 93-13, at 49-50; 1992 Boston Gas Decision at 201.

The Department reviews a gas company's five-year supply plan to determine whether the plan is adequate to meet projected normal-year, design-year, design-day, and cold-snap firm sendout requirements.[(8)] In order to establish adequacy, a gas company must demonstrate that it has an identified set of resources that meet its projected sendout under a reasonable range of contingencies. If a company cannot establish that it has an identified set of resources which meet sendout requirements under a reasonable set of contingencies, the company must then demonstrate that it has an action plan which meets

projected sendout in the event that the identified resources will not be available when expected. Colonial Gas Company, D.P.U. 96-18, at 31; Commonwealth Gas Company, D.P.U. 92-159, at 54; Colonial Gas Company, D.P.U. 93-13, at 50.

In its review of a gas company's supply plan, the Department reviews a company's overall supply planning process. An appropriate supply planning process is essential to the development of an adequate, low-cost, and low environmental impact resource plan. Pursuant to this standard, a gas company must establish that its supply planning process enables it to (1) identify and evaluate a full range of supply options, and (2) compare all options -- including Conservation and Load Management ("C&LM") -- on an equal footing. Colonial Gas Company, D.P.U. 96-18, at 31; Commonwealth Gas Company, D.P.U. 92-159, at 54; Colonial Gas Company, D.P.U. 93-13, at 51; 1992 Boston Gas Decision at 202.[(9)]

Finally, the Department reviews whether a gas company's five-year supply plan minimizes cost. A least-cost supply plan is one that minimizes costs subject to trade-offs with adequacy and environmental impact. Commonwealth Gas Company, D.P.U. 92-159, at 55; Colonial Gas Company, D.P.U. 93-13, at 51-52; 1992 Boston Gas Decision at 203. Here, a gas company must establish that application of its supply planning process has resulted in the addition of resource options that contribute to a least-cost plan.

B. Previous Supply Plan Review

In D.T.E. 98-55, the Department rejected Fitchburg's supply plan for the years 1998-1999 through 2002-2003. Fitchburg Gas and Electric Light Company, D.T.E. 98-55, at 29. The Department found that the Company had established that its normal year, design year and design day supply plans were adequate to meet Fitchburg's forecast sendout requirements throughout the forecast period. Id. at 28. However, the Department found that the Company had failed to develop: (1) a cold-snap analysis; (2) appropriate criteria for screening and comparing supply-side resources; and (3) a mechanism that would allow Fitchburg to compare all resources on an equal basis. Id. Finally, the Department found that the application of the Company's supply planning process as a whole failed to show that it resulted in the addition of resources that contribute to a least-cost supply plan. Id. at 29.

C. Base Case Supply Plan

In this section, the Department reviews the Company's supply plan and identifies elements that represent potential contingencies affecting the adequacy of supply or which potentially affect the cost of the supply plan. The Department reviews the adequacy of the Company's supply plan, the Company's supply planning process, and the cost of the Company's supply plan.

1. Gas Supplies

The Company indicated that it has the following six contracts for firm gas suppliers:

Supplier	Terms	MDQ	Expiration
Engage Energy	Monthly Nomination	1596	10/31/2000[(10)]
Engage Energy	Monthly Nomination with Daily swing	2638	3/31/2000[(11)]
Aquila	Monthly Nomination	2000	10/31/2002
Dynegy	Monthly Nomination	2000	10/31/2002
Coral Energy	Monthly Nomination	1500	3/31/2000[(12)]
Boundary Gas	Monthly Nomination	534	1/15/2003

(Exh. FGE-1, at 60, Table 3.1).

2. Storage Facilities and Services

Fitchburg indicates that it has two storage contracts, one with CNG Transportation Corporation ("CNG"), and a second with the Tennessee Gas Pipeline ("Tennessee") (id. at 62). The deliverability under these contracts is 468 Dth/day and 4807 Dth/day respectively (id.). The CNG contract expires March 31, 2001, but contains an evergreen provision that it remain in effect for additional two-year periods unless one of the parties provides notice of intent to terminate. The Company indicated its intention of renewing it (id.). The Tennessee contract provides for a termination date of March 31, 2004, but continues in effect afterward unless either party provides 30-day notice of termination (id.).

3. Local Production

Fitchburg indicated that it operates a satellite liquefied natural gas ("LNG") storage and vaporization facility that is capable of delivering 7,200 Dth/day (id.). The Company plans to extend or replace its current LNG supply agreements with Distrigas of Massachusetts Corporation and Connectiv/CNE Peaking, each of which provides 40,000 Dth/year of LNG supply, callable on a "day-ahead" basis (id.).

4. Demand-Side Management

In its IRP filing, the Company stated its intention to file its Gas Energy Efficiency and Market Transformation Plan on May 15, 2000, subsequent to the IRP filing. Fitchburg noted that the plan would include energy efficiency program descriptions, budgets, cost effectiveness results, performance objectives, and evaluation plans for the Company's proposed DSM activities during the four-year period ending October 2003[(13)] (id. at 75).

5. Capacity Resources

The Company indicates that it has contracted with Tennessee for transportation services under rate schedule FT-A, for long haul transportation, and rate schedule FS, for

transportation from upstream storage (id. at 63). The Company's capacity contracts expire between the years 2002 and 2004, with the majority expiring in 2004 (id. at 63, Table 3.2).

D. Adequacy of the Supply Plan

In reviewing the adequacy of a gas company's five-year supply plan, the Department first examines whether the Company's base-case resource plan is adequate to meet its projected normal-year, design-year, design-day, and cold-snap firm sendout requirements and, if so, whether the Company's plan is adequate to meet its sendout requirements if certain supplies become unavailable. See Colonial Gas Company, D.P.U. 93-13, at 62; 1992 Boston Gas Decision at 212-213; 1987 Berkshire Gas Decision at 76. If the supply plan is not adequate under the base-case resource plan, or not adequate under the contingency of existing or new supplies becoming available, then the Company must establish that it has an action plan which will ensure that supplies will be obtained to meet its projected firm sendout requirements. Colonial Gas Company, D.P.U. 93-13, at 62; 1992 Boston Gas Decision at 212-213; 1987 Berkshire Gas Decision at 76.

1. Normal and Design Year Adequacy

a. Description

The Company's Tables 3.4 and 3.5 outline the adequacy of the portfolio to meet normal and design year conditions (Exh. FGE-1, at 67-68). Fitchburg indicated that it plans to meet its normal and design heating season needs through a combination of firm gas suppliers, underground storage facilities, local production facilities (propane and LNG), and interstate pipeline transportation services, as noted in Section III.C, above. The Company has the flexibility to adjust for future DSM savings and extend virtually all of its supply arrangements and many of its contracts (id. at 66).

b. Analysis and Findings

As noted previously, the Department has found Fitchburg's normal, design year, design day and cold-snap forecast to be reviewable, reliable, and appropriate. Based on Fitchburg's sendout and supply tables, the Company has demonstrated that it has adequate supplies to meet its forecast sendout requirements under normal, design, and cold-snap conditions throughout the forecast period. Accordingly, the Department finds that Fitchburg has established that the Company has adequate supplies to meet its normal year, design year, design day, and cold- snap forecast sendout requirements throughout the forecast period.

2. Design Day Adequacy

a. Description

The Company explains that it has adequate capacity to serve the Design Day requirements (id. at 74, Table 3.7). Although both of the Company's peak shaving plants will be used to meet design weather demand, for planning purposes the Company assumes that it will only use one of its two peak shaving plants (id. at 73). When the capacity of the other peak shaving plant is considered, the resulting capacity margin is approximately 30 percent (id. at 74). The Company will purchase supplies in the market to replace the listed supply contracts that expire over the forecast period (id.).

b. Analysis and Findings

Fitchburg presented supply plans for meeting its forecast design day sendout requirements throughout the forecast period. Fitchburg plans to meet its design day needs through existing firm pipeline supplies, underground storage and peaking supply resources (i.e., LNG and propane injections) (id. at 74, Table 3.7).

As noted previously, the Department found the Company's design day forecast to be reviewable, appropriate, and reliable. Based on this finding and the sendout and supply tables, the Department finds that Fitchburg has demonstrated that it has adequate supplies and facilities to meet forecast sendout requirements under the design day conditions throughout the forecast period.

3. Cold-Snap Adequacy

a. Description

The Company performed an analysis to establish the ability of its supplies to meet sendout requirements over ten consecutive extreme cold days (id. at 72). The analysis assumed the cold snap would occur during the last ten days of an otherwise normal January since, in the context of a cold snap, the last ten days of January would pose the greatest challenge to the Company's supply system (id. at 72). During the cold snap, a mixture of LNG and LPG supplies would be used to meet the peaking supply requirement (id.). The Company determined that its gas supply portfolio would be capable of meeting sendout requirements for a ten-day end-of-the-month cold snap with a reserve margin of approximately ten percent (id.).

b. Analysis and Finding

The Company provided tables and analysis similar those for its design year and design day plans indicating that Fitchburg has adequate supplies to meet its firm sendout requirements during a prolonged cold snap.

4. Conclusions on the Adequacy of the Supply Plan

As noted previously, the Department has found Fitchburg's normal, design year, design day forecast to be reviewable, reliable, and appropriate. Based on Fitchburg's sendout and supply tables, the Department finds that the Company has established that its normal year and design year supply plans are adequate to meet the Company's forecast sendout requirements throughout the forecast period. The Department also finds that the Company has established that it has adequate supplies to meet the Company's design sendout requirements for the forecast period.

Accordingly, the Department finds that Fitchburg has established that it has adequate resources to meet its firm sendout requirements throughout the forecast period.

E. Supply Planning Process

1. Standard of Review

The Department has determined that a supply planning process is critical in enabling a utility company to formulate a resource plan that achieves an adequate, least-cost and low environmental impact supply for its customers. Berkshire Gas Company, D.P.U. 94-14, at 36 (1994); Colonial Gas Company, D.P.U. 93-13, at 70; 1992 Boston Gas Decision at 223; Boston Gas Company, 19 DOMSC 332, 388 (1990) ("1990 Boston Gas Decision"). The Department has noted that an appropriate supply planning process provides a gas company with an organized method of analyzing options, making decisions, and re-evaluating decisions in light of changed circumstances. Berkshire Gas Company, D.P.U. 94-14, at 36; Colonial Gas Company, D.P.U. 93-13, at 70; 1992 Boston Gas Decision at 223; 1990 Boston Gas Decision at 388. For the Department to determine that a gas company's supply planning process is appropriate, the process must be fully documented. Colonial Gas Company,

D.P.U. 93-13, at 70; 1992 Boston Gas Decision at 223; 1987 Berkshire Gas Decision at 84.

The Department's review of a gas company's process for identifying and evaluating resources focuses on whether the company: (1) has a process for compiling a comprehensive array of resource options -- including pipeline supplies, supplemental supplies, DSM, and other resources; (2) has established appropriate criteria for screening and comparing resources within a particular supply category; (3) has a mechanism in place for comparing all resources, including DSM, on an equal basis, i.e., across resource categories, and (4) has a process that as a whole enables the company to achieve an adequate, least-cost, and low environmental impact supply plan. Fitchburg Gas and Electric Light Company, D.P.U. 94-140, at 37; Colonial Gas Company, D.P.U. 93-13, at 70; 1992 Boston Gas Decision at 224; 1990 Boston Gas Decision at 54-55.

As set forth in Section III.A, above, the Department reviews a gas company's five-year supply plan to determine whether it minimizes cost, subject to trade-offs with adequacy and environmental impact. Fitchburg Gas and Electric Light Company, D.P.U. 94-140, at 37; Colonial Gas Company, D.P.U. 93-13, at 88; 1992 Boston Gas Decision at 236; 1987

Boston Gas Decision at 214. A gas company must establish that the application of its supply planning process, including adequate consideration of DSM and consideration of all resource options on an equal basis, has resulted in the addition of resource options that contribute to a least-cost supply plan. Fitchburg Gas and Electric Light Company, D.P.U. 94-140, at 37; Colonial Gas Company, D.P.U. 93-13, at 83; 1992 Boston Gas Decision at 233; Berkshire Gas Company, 14 DOMSC 107, 115 (1986). As part of this review, the Department requires gas companies to show, at a minimum, that they have completed comprehensive cost studies comparing the costs of a reasonable range of practical supply alternatives prior to selection of major new resources for their supply plans. Fitchburg Gas and Electric Light Company, D.P.U. 94-140, at 37; Colonial Gas Company, D.P.U. 93-13, at 89; 1992 Boston Gas Decision at 236; 1986 Gas Generic Order at 100-102.

2. Identification and Evaluation of Resource Options

a. Supply-Side Resources

Previously, the Department has endorsed local distribution company acquisition processes that involved the solicitation of competitive bids from alternative suppliers. Fall River Gas Company, D.T.E. 99-26, at 30 (2000); Colonial Gas Company, D.T.E. 98-90, at 35; Holyoke Gas and Electric Department, D.P.U. 93-191, at 30 (1996). In the current proceeding, the Department finds that the RFP process used by Fitchburg to identify alternative suppliers is appropriate. Fitchburg, through its Gas Resource Planning Guidelines, applies price and non-price criteria to determine which options to pursue, and considers both short-term and long-term options. Accordingly, the Department finds that Fitchburg has formulated an appropriate process for identifying a comprehensive array of supply options, and has developed appropriate criteria for screening and comparing supply resources.

b. Demand-Side Management

As discussed in section III.C.4 above, the Company indicated its plans to file a detailed Gas Energy Efficiency and Market Transformation Plan with the Department on May 15, 2000 (Exh. FGE-1, at 75). The Department docketed Fitchburg's filing of its first Gas Energy Efficiency Program Proposal for the period November 1, 2000 through October 31, 2003 as D.T.E. 00-48. The Company's plan provides DSM programs to its residential and C&I customers and establishes a process to identify and evaluate the cost-effectiveness of its DSM programs. The Department approved the DSM settlement agreement on September 13, 2000. Accordingly, the Department finds that Fitchburg has formulated an appropriate process for identifying a comprehensive array of DSM options and has developed appropriate criteria for screening and comparing DSM resources.

3. Consideration of All Resources on an Equal Basis

a. Description

The Company recognizes the role that DSM programs can play in reducing demand for future gas supply resources (id. at 85). In order to compare DSM resources on an equal footing with supply side resources, the Company notes that it has developed a cost effectiveness tool in accordance with the Department's order on energy efficiency programs in D.T.E. 98-100 (id.). In particular, the Company evaluates measures whose benefits equal or exceed their costs[(14)] (id.).

b. Analysis and Finding

The Department has held that in order for a gas company's planning process to minimize cost, that process must adequately consider alternative resource additions, including DSM options, on an equal basis. Colonial Gas Company, D.P.U. 93-13, at 83; 1992 Boston Gas Decision at 233. The record shows that the Company has a method to evaluate resources within a single resource group, and that it evaluates options across resource groups using industry-accepted standards.[(15)] Accordingly, the Department finds that Fitchburg has incorporated both supply-side and demand-side options in its resource mix and has compared all resources, including DSM, on an equal basis.

4. Conclusions on the Supply Planning Process

The Department finds that Fitchburg has established that its normal year, design year and design day supply plans are adequate to meet the Company's forecast sendout requirements throughout the forecast period. The Department has also found that Fitchburg has: (1) formulated an appropriate process to identify a comprehensive array of supply options, and has developed appropriate criteria for screening and comparing supply resources; (2) formulated an appropriate process for identifying a comprehensive array of DSM options, and has developed appropriate criteria for screening and comparing DSM resources; and (3) incorporated both supply-side and demand-side options in its resource mix, and it has compared all resources, including DSM, on an equal basis. Finally, the Department finds that Fitchburg has developed an appropriate supply planning process.

5. Conclusions on the Supply Plan

The Department has found that Fitchburg has established that its normal year, design year, design day and cold-snap supply plans are adequate to meet the Company's forecast sendout requirements throughout the forecast period. In addition, the Department has found that Fitchburg has developed: (1) appropriate criteria for screening and comparing supply-side resources and demand-side resources, and (2) a mechanism to undertake the comparison of resources on an equal basis. Finally, the Department has found that the Company's supply planning process as a whole may lead to the addition of resources that contribute to a least-cost supply plan. Accordingly, the Department approves the Company's supply plan for the years 1999-2000 through 2003-2004.

IV. CONCLUSION

The Department hereby approves the 1999-2000 through 2003-2004 forecast and supply plan of Fitchburg Gas and Electric Light Company. In so deciding, the Department has detailed specific information that Fitchburg must provide in its next filing in order for the Department to approve that filing. This information is necessary for the Department to fulfill its statutory mandate. Therefore, in order for the Department to approve Fitchburg's next forecast and supply plan filing, the Company must collect relevant data and information to appropriately develop its transportation forecast, and develop class-specific transportation forecasts.

V. ORDER

Accordingly, after due notice, hearing and consideration, it is

ORDERED: That Fitchburg Gas and Electric Light Company's petition for approval of its long-range forecast and supply plan be and hereby is APPROVED; and it is

FURTHER ORDERED: That Fitchburg Gas and Electric Light Company comply with all of the directives contained herein prior to filing its next long-range forecast and supply plan; and it is

FURTHER ORDERED: That Fitchburg Gas and Electric Light Company shall file its next long-range forecast and supply plan with the Department by January 30, 2003.

By Order of the Department,

_____

James Connelly, Chairman

_____

W. Robert Keating, Commissioner

_____

Paul B. Vasington, Commissioner

_____

Eugene J. Sullivan, Jr., Commissioner

_____

Deirdre K. Manning, Commissioner

Appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part.

Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such time as the Commission may allow upon request filed prior to the expiration of twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk of said Court. (Sec. 5, Chapter 25, G.L. Ter. Ed., as most recently amended by Chapter 485 of the Acts of 1971).

1. [1] Pursuant to Chapter 141 of the Acts of 1992 ("Reorganization Act"), the Energy Facilities Siting Council ("Siting Council") was merged with the Department, and an Energy Facilities Siting Board ("Siting Board") was created within the Department, effective September 1, 1992. Reorganization Act, § 55. As a result of the merger, the Department was given jurisdiction to review utility forecast and supply plans, a function previously performed by the Siting Council. G.L. c. 164, § 69I. The terms Siting Council and Siting Board will be used in this decision as appropriate to the circumstances being discussed.

2. Fitchburg is a subsidiary of Unitil Corporation, a public utility holding company registered under the Public Utility Holding Company Act. Unitil Service Corporation is an affiliate of the Company.

3. A cold-snap is a prolonged series of days at or near design conditions. Colonial Gas Company, D.P.U. 93-13, at 66; Boston Gas Company, 25 DOMSC 116, 217 (1992) ("1992 Boston Gas Decision"); Commonwealth Gas Company, 17 DOMSC 71, 137 (1998) ("1998 Commonwealth Gas Decision"). The purpose of a cold-snap analysis is to test the ability of the Company's resource portfolio to respond to prolonged extreme conditions. Colonial Gas Company, D.T.E. 98-90, at 3 n.4 (2000).

4. [4] The design day represents the coldest day for which the utility plans to provide reliable firm service.

5. An HDD is a measure of coldness of the weather experienced, based on the extent to which the daily mean temperature falls below a reference temperature, usually 65 degrees Fahrenheit.

6. The Company used customer consumption data obtained from the Company's records and economic and demographic data acquired from WEFA, Inc., an economic consulting firm (Exh. FGE-1, at 7-8).

7. G.L. c.164, § 69I also directs the Department to balance cost considerations with environmental impacts in ensuring that the Commonwealth has a necessary supply of energy. Colonial Gas Company, D.P.U. 96-18, at 31; Commonwealth Gas Company, D.P.U. 92-159, at 53; Colonial Gas Company, D.P.U. 93-13, at 50.

8. The Department's review of reliability, another necessary element of a gas company's supply plan, is included within the Department's consideration of adequacy. See Colonial Gas Company, D.P.U. 93-13, at 50 n.22; 1992 Boston Gas Decision

at 201 n.87; Boston Gas Company, 16 DOMSC 173, 214 (1987) ("1987 Boston Gas Decision").

9. G.L. c. 164, § 69I, requires a utility company to demonstrate that its long-range forecast "include[s] an adequate consideration of conservation and load management." Initially, the Siting Council reviewed gas C&LM efforts in terms of cost minimization issues. In the 1998 Commonwealth Gas Decision, 17 DOMSC at 122-126, the Siting Council expanded its review to require a gas company to demonstrate that it has reasonably considered C&LM programs as resource options to help ensure that it has adequate supplies to meet projected sendout requirements.

10. The Company indicated that although this contract is a one year contract, Fitchburg has been extending it for one year terms (Exh. FGE-1, at 61).

11. The Company indicates that in the future it will continue to contract in the marketplace on a seasonal basis for similar supplies as needed (Exh. FGE-1, at 61).

12. Fitchburg states that this contract provides base load supply with a first of the month nomination flexibility (Exh. FGE-1, at 61). The Company states that each year it

contracts for a supply such as the one provided by the Coral Energy contract in order to ensure that the Company's storage facilities do not get drawn down too quickly in the event of a design cold winter (id. at 61-62). In order to secure this type of supply, the Company issues a request for proposal ("RFP") (id. at 62).

13. The Company's DSM filing was docketed as D.T.E. 00-48. On September 13, 2000, the Department approved a settlement of the DSM docket.

14. According to the Company the following factors are used in determining the cost effectiveness of DSM measures: (1) Energy System Costs; (2) Program Participant Costs; (3) Energy System Benefits; (4) Program Participant Benefits; and (5) Discount Rate (see Exh. FGE-1, at 85-89)

15. To compare DSM resources on an equal basis with supply-side options, the Company utilized a cost-effectiveness tool in its DSM settlement in accordance with the Department's order in D.T.E. 98-100.